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EARTHQUAKE HAZARDS REDUCTION ACT OF 1977: AUTHORIZATION FOR FISCAL YEARS 1988 AND 1989

MAY 21, 1987.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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Mr. ROE, from the Committee on Science, Space, and Technology, submitted the following

REPORT

[To accompany H.R. 1612 which on March 16, 1987, was referred jointly to the Committees on Science, Space, and Technology and Interior and Insular Affairs]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, Space, and Technology, to which was referred the bill (H.R. 1612) to authorize appropriations under the Earthquake Hazards Reduction Act of 1977 for fiscal years 1988 and 1989, having considered the same, report favorably thereon with amendments and recommend that the bill do pass.

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The amendments (stated in terms of the page and line numbers of the introduced bill) are as follows:

Page 1, line 9, strike out "$5,313,000" and insert in lieu thereof "$5,778,000".

Page 1, line 10, strike out "$5,322,000" and insert in lieu thereof "$5,788,000".

Page 2, line 4, strike out "$32,540,000" and insert in lieu thereof "; $36,540,000".

Page 2, line 5, strike out "$33,679,000" and insert in lieu thereof "$37,819,000".

Page 2, line 10, strike out "28,700,000" and insert in lieu thereof "; $28,235,000".

Page 2, line 11, strike out "$32,100,000" and insert in lieu thereof "$31,634,000".

Page 2, line 16, insert a semicolon before "$525,000".

Page 2, line 16, strike out the comma after "1988" and insert in lieu thereof a semicolon.

Page 2, after line 18, insert the following new section:

SEC. 5. Section 5 of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7704) is amended by adding at the end thereof the following new subsection:

"(j)(1) In the case of any State which has voluntarily engaged in cost sharing by matching Federal grants from the Federal Emergency Management Agency for activities under this Act over the 3-fiscal-year period ending September 30, 1987, any such cost sharing that may be required for the fiscal year ending September 30, 1988, or the fiscal year ending September 30, 1989, shall be at a level no higher than the State's average level of such cost sharing over such 3-year period.

"(2) In the case of any State which has not engaged in cost sharing by matching Federal grants from the Federal Emergency Management Agency for activities under this Act over such 3-fiscal-year period—

"(A) no such cost sharing may be required for the fiscal year ending September 30, 1988; and

"(B) any such cost sharing that may be required for the fiscal year ending September 30, 1989, shall be at a level no higher than 25 percent of the Federal contribution toward the cost of the activities involved.

"(3) Nothing in this subsection shall be construed to prevent any State, voluntarily and at its option, from engaging in cost sharing at a level higher than the maximum level which may be required of it under paragraph (1) or (2).".

PURPOSE OF THE BILL

The purpose of the bill is to authorize appropriations to carry out the Earthquake Hazards Reduction Act of 1977 for fiscal years 1988 and 1989, as follows:

National Earthquake Hazards Reduction Program

Fiscal years:	
1988	$71,078,000
1989	75,766,000

I. Background and Need

EARTHQUAKE HAZARDS REDUCTION ACT OF 1977

All or parts of 39 States lie in regions classed as having major or moderate seismic risk. Within these States, more than 70 million people are exposed to earthquake hazards of ground shaking, surface faulting, earthquake ground failures and tsunamis.

Congress found that a coherent earthquake hazards reduction program was needed so that this Nation could work in a rational way to reduce the damage done by earthquakes. Consequently, in 1977 the Congress resounded to the problem posed by earthquakes by enacting the Earthquake Hazards Reduction Act of 1977 to reduce the risks to life and property from future earthquakes. The emphasis of the act is on prevention and preparedness as distinct from disaster relief.

The act established the National Earthquake Hazards Reduction Program (NEHRP), a multiagency effort to meet the congressional mandated objectives. The agencies involved are: the Federal Emergency Management Agency (FEMA); U.S. Geological Survey (USGS); National Science Foundation (NSF); and the National Bureau of Standards (NBS). The roles and responsibilities of these agencies are as follows:

FEMA has primary responsibility to plan and coordinate the NEHRP; assist State and local governments with earthquake mitigation and preparedness planning; coordinate Federal activities in response to a declared earthquake emergency; and develop improved seismic construction codes, standards and practices.

USGS conducts and sponsors research on the nature of earthquakes, earthquake prediction, and induced seismicity. In addition, USGS evaluates geologic hazards, prepares seismic risk maps; evaluates earthquake predictions; and provides data on earthquakes.

NSF sponsors research on earthquakes processes in its geophysics program and on earthquake engineering and socioeconomic implications of earthquakes in its civil and environmental engineering program. NSF's societal response program supports research on the responses of individuals, organizations, and communities to earthquakes and related hazards.

NBS contributes research on earthquake-resistant construction. It also provides technical assistance to other organizations in the development of design and construction provisions to reduce earthquake hazards in buildings.

The National Earthquake Hazard Reduction Program is working to reduce the risk from future earthquakes in the United States.

II. Summary of Committee Actions

BUDGET TOTAL

The President's budget for fiscal year 1988 included a request for $67,078,000 as follows: FEMA–$5,313,000; USGS–$32,540,000; NSF–

$28,700,000; and NBS–$525,000 in new obligational authority. This amount represents an increase of $926,000 over the FY 1987 appropriations of $66,152,000 for these programs. For FY 1989 the President's budget included a request for $71,626,000 as follows: FEMA–$5,322,000; USGS–$33,679,000; NSF–$32,100,000; and NBS–$525,000.

H.R. 1612, as amended by the Committee includes an FY 1988 authorization total of $71,078,000 as follows: FEMA–$5,778,000; USGS–$36,540,000; NSF–$28,235,000; and NBS–$525,000. For FY 1989, the authorization total of $75,766,000 is as follows: FEMA–$5,788,000; USGS–$37,819,000; NSF–$31,634,000; and NBS–$525,000.

PURPOSE OF THE BILL

The purpose of the bill is to authorize appropriations to carry out the Earthquake Hazards Reduction Act of 1977 for fiscal years 1988 and 1989 as follows:

Agency	Fiscal year—	
	1988	1989
FEMA	$5,778,000	$5,788,000
USGS	36,540,000	37,819,000
NSF	28,235,000	31,634,000
NBS	525,000	525,000
	71,078,000	75,766,000

COMPARISON WITH BUDGET REQUEST

Committee actions on the President's budget request for the National Earthquake Hazards Reduction Program are reflected in the following table:

EARTHQUAKE HAZARDS REDUCTION ACT BUDGET

[In millions of dollars]

Agency	Fiscal year 1986		Fiscal year 1987		Fiscal year 1988	Fiscal year 1989	H.R. 1612, as reported		Fiscal year 1988/1987 request +/− Appropriation	Request +/−, H.R.1612, as reported	
	Authorization	Appropriation	Authorization	Appropriation	Request	H.R. 1612	Fiscal year 1988	Fiscal year 1989		Fiscal year 1988	Fiscal year 1989
FEMA	5.596	5.254	5.848	5.778	5.313	5.322	5.778	5.788	−.465	+.465	+.466
USGS	35.578	34.332	37.179	[1]34.775	32.540	33.679	36.540	37.819	−2.2350	+4.000	+4.140
NSF	27.760	22.750	29.009	25.100	28.700	32.100	28.235	31.634	+3.6	−.465	−.466
NBS	.499	.499	.521	.499	.525	.525	.525	.525	[2]+.026	.0	.0
Total	69.433	62.835	72.557	66.152	67.078	71.626	71.078	75.766	+.926	+4.000	+4.140

[1] −1.5 million fiscal year 1987 reprogramming request for retirement benefits.
[2] Overhead.

III. Section-by-Section Analysis

EARTHQUAKE HAZARDS REDUCTION ACT

A bill to authorize appropriations under the Earthquake Hazards Reduction Act of 1977 for fiscal year 1988 and 1989, and for other purposes.

Section 1 authorizes $5,778,000 for the fiscal year ending September 30, 1988; and $5,778,000 for the fiscal year ending September 30, 1989 to the Director of the Federal Emergency Management Agency to plan and coordinate the National Earthquake Hazards Reduction Program, to submit an annual report to Congress as outlined and other activities as specified in sections 5 and 6 of the Earthquake Hazards Reduction Act.

Section 2 authorizes $36,540,000 for the fiscal year ending September 30, 1988; and $37,819,000 for the fiscal year ending September 30, 1989 to the U.S. Geological Survey to conduct research on the nature of earthquakes, earthquake prediction and induced seismicity.

Section 3 authorizes $28,235,000 for the fiscal year ending September 30, 1988; and $31,634,000 for the fiscal year ending September 30, 1989 to the National Science Foundation to conduct research on earthquake processes, earthquake engineering and the socioeconomic implications of earthquakes.

Section 4 authorizes $525,000 for the fiscal year ending September 30, 1988; and $525,000 for the fiscal year ending September 30, 1989, to the National Bureau of Standards to conduct research on performance criteria and measurement technology for earthquake-resistant construction.

Section 5 prohibits the imposition of any new cost-sharing requirements for State and local governments in fiscal year 1988, but would allow FEMA to require up to a 25 percent match in fiscal year 1989. However, states are allowed to voluntarily contribute more than the required match.

IV. Committee Views (H.R. 1612)

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

Committee view

In creating the National Earthquake Hazards Reduction Program (NEHRP), Congress brought together the earthquake research programs already underway at the U.S. Geological Survey (USGS) and National Science Foundation (NSF). The original 1977 Act called for the designation of a lead agency to provide overall program coordination, direction and management. Following the creation of FEMA in 1979, the Act was amended in 1980 to designate FEMA as the lead agency with the primary responsibility to plan and coordinate the NEHRP.

Congress assigned FEMA the leadership role in keeping with the agency's overall mission to coordinate Federal emergency management activities (preparedness, response, recovery, and mitigation for all types of disasters, natural and man-made) and providing technical and financial assistance to state and local governments in carrying out their emergency management programs.

With the inclusion of FEMA, the NEHRP became a comprehensive effort to reduce and eliminate earthquake hazards, rather than purely being a research program. Congress recognized that state and local governments have the ultimate responsibility in dealing with disasters, and that the Federal Government has an obligation to provide them with information and assistance to improve their emergency management programs. FEMA is the agency that must ensure that federally funded research is translated into a form that can be applied by states and localities.

In the past, witnesses before the Committee questioned FEMA's ability to fulfill its leadership role. However, since Fiscal Year 1984, the Committee has heard testimony presenting evidence that FEMA has taken steps towards performing its assigned role. Signs of continued progress include the timely delivery of the Annual Report on the NEHRP to Congress for the last three years; establishment of an "Expert Review Committee" to assist in the revision of the NEHRP Five-Year Plan; and support for the programs conducted by the Building Seismic Safety Council and the Interagency Committee on Seismic Safety Construction.

FEMA has also begun to identify gaps in the NEHRP and to bring them to the attention of the program's agencies, researchers and the Congress. For example, FEMA has encouraged the other agencies to emphasize reducing hazards posed by existing structures and to increase the transfer of research results to state and local governments.

Since FEMA continues to show improvement in coordinating and managing the NEHRP, the Committee believes a two-year authorization will provide further stability to the program.

FEMA cost-sharing

The Committee believes that state and loal governments should help pay for the costs of earthquake hazards programs in their jurisdictions. However, the Committee rejected FEMA's proposal to begin requiring a 50 percent state match for its grants in Fiscal Year 1988. The proposal did not give states enough time to prepare for the change. State participation is critical to the success of NEHRP, so any new funding requirements must be phased in.

H.R. 1612 would permit such a phase-in. The bill prohibits the imposition of any new cost-sharing requirements in Fiscal Year 1988, but would allow FEMA to require up to a 25 percent match in Fiscal Year 1989. The Committee believes that by Fiscal Year 1990, the state cost-share should be in cash, not in kind. The bill allows states to voluntarily contribute more than the required match. The Committee expects that the three states that already share costs with FEMA will continue to do so.

Budget line item for FEMA Earthquake Program

Currently, FEMA does not have a line item in its budget for the earthquake program, but rather incorporates the program in the Comprehensive Emergency Preparedness Planning budget line item. The earthquake program is the only statutory program in FEMA that does not have a line item. The Committee urges that FEMA create a separate line item for the earthquake program in

its Fiscal Year 1989 budget proposal. No additional costs would be incurred as a result.

NATIONAL SCIENCE FOUNDATION (NSF)

Committee view

The Committee recommends a reduction in the Administration's proposed earthquake budget for NSF of $465,000 in Fiscal Year 1988 and $466,000 in Fiscal Year 1989 to offset identical increases in the FEMA earthquake budget. This reduction should not be taken as a sign of dissatisfaction with the NSF earthquake programs. Rather, the Committee believes that NSF can more easily sustain the relatively insignificant cut than could the other NEHRP agencies. NSF has the discretion to decide how to distribute the reduction.

Earthquake Hazard Mitigation Program

The NSF's Earthquake Hazard Mitigation (EHM) Program in the Engineering Directorate supports fundamental research in engineering directed toward mitigation of the effects of earthquakes. The internationally recognized research funded by NSF has led to the development of technologies to reduce damage from earthquakes.

One of NSF's most promising projects is the Earthquake Engineering Research Center. The Center was competitively awarded to a consortium headed by the State University of New York at Buffalo, in August 1986. The Center is a cooperative $10 million per year research operation with the costs equally divided between NSF and New York State. The members of the consortium are the City College of New York, Columbia University, Cornell University, Lamont-Doherty Geological Observatory, Lehigh University, Princeton University, Rensselaer Polytechnic Institute, and State University of New York at Buffalo.

The Center will conduct research to improve basic knowledge about earthquakes, engineering practice, and implementation of seismic hazard mitigation procedures in order to minimize the loss of lives and property. Initially research will be directed toward existing structures, particularly "non-engineered" buildings, and to earthquake hazards in the eastern U.S., where earthquakes occur infrequently but can be unusually powerful. The Center will emphasize a systems approach in which earthquake requirements are integrated with consideration of other hazards, such as high winds and ground failures. The Committee notes that NSF intends the Center to be a national resource which will not neglect research on other areas of the country, while studying the less-understood consequences of eastern earthquakes.

The Committee is aware of the potential advantages of the Center in supporting promising interdisciplinary research necessary to address complex earthquake engineering problems. However, the Committee is concerned that funding of this and other centers not severely reduce funds available for individual research projects. The Committee firmly believes that individual research projects promote flexibility and spontaneity which often foster scientific breakthroughs. Therefore, along with supporting the Center,

NSF must continue to adequately nurture and support individual research projects.

The Committee applauds NSF's support of research teams to study recent earthquakes, such as the Chile earthquake of March 3, 1985 and the Mexico earthquake of September 19, 1985. The Committee recognizes the importance of capturing the lessons learned from these "living laboratories", which have implications for and application to earthquake engineering in the United States.

The Committee urges NSF and the Earthquake Engineering Research Center to devote more attention to research that can mitigate earthquake damage within the next several years. NSF should seek an appropriate balance between research having long-range outcomes and nearer-term results. In administering its research program, advice should be sought from state and local officials and engineers to help focus the program on their most pressing needs.

The Committee has received testimony advocating the need for better utilization of technical and scientific knowledge generated from NSF supported research. NSF should assist in developing mechanisms to broaden the distribution of research findings. The Societal Response component of the program discussed next can be an important element in improving NSF's dissemination efforts.

Societal response earthquake research component of the Earthquake Hazard Mitigation Program

Since fiscal year 1986, NSF has discontinued the Societal Response Earthquake program as an identifiable program with a separate budget. The Committee would prefer that an identifiable program be maintained. However, the Committee appreciates the Foundation's rationale that the overhead associated with a separate program cannot be justified. Thus, the Committee directs NSF to monitor the program to ensure that funds consistent with the importance of the program continue to be obligated.

The need for research on policy analysis, program evaluation, organizational response, technology transfer, and knowledge diffusion are too valuable to be lost as an identifiable part of the Earthquake Hazard Mitigation Program. The Committee strongly urges NSF to continue support of this integral component of the NEHRP.

Basic Earth Sciences

The Geosciences Directorate of NSF also supports research as part of the NEHRP in its Earth Sciences Program. The program supports research on such topics as earthquake mechanisms, crustal movements and seismology. These studies provide the scientific basis for more applied programs.

Earth science continues to be revolutionized by the plate tectonics theory developed in the 1960's, and NSF has been leading the way in improving our understanding of the earth.

Fundamental earth sciences research is vital to the long-term success of the NEHRP because it holds the key to understanding the causes and predictable impacts of earthquakes. NSF must, therefore, be certain to address research in the East as well as the West. The causes of eastern earthquakes are less understood, and their impact could be far more disastrous. The Committee appreciates the attention NSF has been paying to this problem.

The Committee applauds projects such as the Scientific Drilling project at Cajon Pass, in California; the Consortium for Continental Reflection Profiling project to locate and map crustal deep faults that are not visible at the earth's surface; projects to use the satellite-based Global Positioning System to make precise measurements of crustal deformations in areas where active movements are now taking place; and the IRIS (Incorporated Research Institutions for Seismology), a consortium of 50 universities representing 26 states, which is working with the USGS to upgrade the global digital seismographic network. While the Committee is pleased with the NSF Earth Sciences program, it recommends the program be reviewed to ensure that the goals, priorities and objectives of the overall NEHRP are met.

U.S. GEOLOGICAL SURVEY (USGS)

Committee view

The USGS is responsible for earthquake related studies in seismology, geology, geophysics, and soil engineering. The Committee rejects the Administration's proposal to reduce the Survey's program by cutting its budget from $34.775 million to $32.540 million. The Administration proposal to reduce the USGS effort comes at a time when the threat of a catastrophic earthquake in California is increasing and there is a greater need for support of the prediction program in that area. Furthermore, the USGS has the added responsibility of picking up the Nuclear Regulatory Commission's (NRC) monitoring activities in the eastern United States.

The funding appropriated for the USGS program over the last decade follows:

Fiscal year:	
1978	$30.3
1979	31.6
1980	32.0
1981	32.9
1982	33.0
1983	34.9
1984	35.6
1985	36.2
1986 (post Gramm-Rudman)	34.2
1987	34.7
(authorization)	37.2
1988:	
Request	32.5
Committee recommendation	36.5

The Administration's proposal which would force the closure of parts of the regional seismic networks that measure earthquake activity in Alaska, Nevada, Utah, Missouri and elsewhere; and the elimination of geodetic surveys that measure the build-up of tension in some earthquake-prone regions. Geodetic surveys are important to the development of earthquake prediction models; however, the surveys would be the first programs eliminated because they have no immediate impact. The first seismic networks to be eliminated would be those in Alaska, which are in the least populous area, followed by those in the East, where earthquakes are infrequent.

However, the Committee recommends $36.540 million to maintain USGS earthquake mitigation programs at the Fiscal Year 1986 post-Gramm-Rudman-Hollings program level. The increase would pay for increased salaries and retirement costs and other costs needed to maintain the fiscal year 1987 programs in fiscal year 1988. The Committee's recommendation enables the seismic networks and geodetic surveys to operate at the current levels without a reduction.

Importance of Eastern earthquake monitoring

Very large earthquakes occurred east of the Mississippi in the 17th century and again in the 19th century. Moderately large earthquakes have occurred in Massachusetts, New Hampshire, New York, Virginia, South Carolina, Ohio, Illinois, Kentucky, Tennessee, Arkansas, Nebraska, Missouri, Oklahoma, Kansas and Texas since the time of settlement. Earthquakes, such as the recent one near Lancaster, Pennsylvania, have occurred in almost all the eastern states. The occurrence of these earthquakes indicate that the potential for damage is present everywhere.

More than in most other parts of the U.S., the potential for more severe earthquake damage in the East is compounded by high population density, existence of many old and large buildings, and a high degree of industrialization, including in particular, vulnerable installations such as nuclear power plants. Therefore, the Nuclear Regulatory Commission (NRC) has been the lead agency in seismological monitoring east of the Rockies.

The NRC plans to discontinue monitoring earthquakes in the East because no new starts of nuclear plants are expected in the near future. The NRC has entered into a Memorandum of Understanding with the USGS detailing how the responsibility for eastern monitoring will be transferred between the agencies.

The NRC had been spending about $2.4 million annually on its monitoring program, most of which was granted to universities. Yet, the NRC will only be providing $5 million over five years to the USGS to buy new equipment for monitoring eastern seismicity. The operating costs will be borne by USGS at a much reduced level than that previously borne by the NRC. Furthermore, the USGS does not intend to continue the support granted to universities. The USGS plans instead to run a broader, but less detailed monitoring program in-house.

The Committee is disappointed that USGS will not be receiving more resources from the NRC. Eastern monitoring is vital and merits support. The Committee notes that the Appropriations Committee has requested that the USGS prepare a draft plan for the National Seismic Network and outline the status of funding for monitoring and research on earthquakes in the Eastern U.S. The Committee would also like to receive that report.

NATIONAL BUREAU OF STANDARDS—CENTER FOR BUILDING TECHNOLOGY (CBT)

Committee view

The Committee is pleased that the Administration has not proposed elimination of the CBT's role in the NEHRP for Fiscal Year

1988. The Committee endorses the request of $525,000 for the CBT's earthquake research program. CBT is the only Federal organization with the breadth and depth of expertise in earthquake engineering required for technical support of Federal activities for improvement of seismic design and construction practices.

The U.S. invests $375 billion per year in construction, with more than half of that in seismic regions. A report released by the National Research Council, entitled "Earthquake Engineering Research—1982", stated, "The present U.S. effort in earthquake hazard reduction is inadequate to solve the earthquake problem in the foreseeable future, that is, to make cities, industries, and military facilities safe against earthquakes." Estimates have been made that 3,000 to 23,000 fatalities will occur with the next catastrophic earthquake hits California. Most of the deaths and injuries would occur because of the failure of man-made structures.

The Federal Government clearly has an important role in sponsoring research and development that could lead to mitigation of earthquake losses. The CBT is an important component to the Federal effort. The CBT's earthquake program addresses two problem areas: safe and economic new construction, and assessment of mitigation of hazardous existing facilities.

The CBT program was established to improve building design and construction practices by conducting fundamental research necessary to establish reliable predictions of the performance of buildings during an earthquake; to provide technical support in the development of seismic design and standards for Federal construction; and to encourage the adoption of improved seismic provisions in State and local building codes.

Currently, the major thrusts of the CBT earthquake program are (1) improved design criteria and standards, (2) more reliable measures of the effects of natural forces on buildings, (3) safety evaluation of existing buildings, and (4) postdisaster investigations.

The CBT laboratory research program is designed to provide information on which to base advanced structural design criteria for improving seismic behavior of new or existing building structures. It is aimed at meeting the most urgent research needs to fill the gaps in building codes and standards, developing new criteria, and making recommendations for repair and retrofit of existing structures. The research is conducted in cooperation with other Government agencies, practicing engineers and architects, professional organizations, trade associations, building owners, product manufacturers, standards and regulatory organization, and university researchers. Moreover, the CBT provides active leadership in the U.S.-Japan panel on Wind and Seismic Effects, which has helped to achieve access to Japanese research results and cooperative research effort.

The Committee notes the importance of the CBT's research on bridge columns, braced steel frames, unreinforced and reinforced masonry under seismic loading conditions. In particular, the Committee applauds the research conducted in 1986 to determine how full-scale concrete columns perform during earthquakes. The research took place in the CBT's Large-Scale Structural Test Facility. The facility is the only one of its kind in the U.S., and includes one of the largest universal testing machines in the world.

The CBT through sponsorship of FEMA provides technical support to the Building Seismic Safety Council (BSSC) and the Interagency Committee on Seismic Safety in Construction (ICSSC). The BSSC was estabished in 1979 as a nonprofit organization comprised of representatives of the public and private sectors whose purpose is to enhance the public's safety by providing a national forum to foster improved seismic safety provisions for use by the building community. The ICSSC was established in 1978 to improve the Federal sector's building practices.

Under the CBT's leadership the ICSSC has issued guidelines on seismic standards for new Federal buildings and formulated a proposed executive order for seismic safety in Federal and Federally-assisted construction. The proposed executive order has been sent to the Office of Management and Budget for their consideration. Implementation of the executive order would set an important example for state and local governments and the private sector to emulate. The Committee applauds this effort.

Authorized funding for the CBT is essential to providing necessary research background for technical activities that the CBT conducts in support of the National Earthquake Hazards Reduction Program.

V. Changes in Existing Law Made by the Bill, as Reported

In accordance with clause 3 of Rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

Earthquake Hazards Reduction Act of 1977

SEC. 5. NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM.

(a) Establishment.—* * *

* * * * * * *

(j)(1) In the case of any State which has voluntarily engaged in cost sharing by matching Federal grants from the Federal Emergency Management Agency for activities under this Act over the 3-fiscal-year period ending September 30, 1987, any such cost sharing that may be required for the fiscal year ending September 30, 1988, or the fiscal year ending September 30, 1989, shall be at a level no higher than the State's average level of such cost sharing over such 3-year-period.

(2) In the case of any State which has not engaged in cost sharing by matching Federal grants from the Federal Emergency Management Agency for activities under this Act over such 3-fiscal-year-period—

(A) no such cost sharing may be required for the fiscal year ending September 30, 1988; and

(B) any such cost sharing that may be required for the fiscal year ending September 30, 1989, shall be at a level no higher than 25 percent of the Federal contribution toward the cost of the activities involved.

(3) Nothing in this subsection shall be construed to prevent any State, voluntarily and at its option, from engaging in cost sharing at a level higher than the maximum level which may be required of it under paragraph (1) or (2).

* * * * * * *

SEC. 7. AUTHORIZATION OF APPROPRIATIONS.

(a)(1) GENERAL.—* * *

* * * * * * *

(7) There are authorized to be appropriated to the Director, to carry out the provisions of section 5 and 6 of this Act, for the fiscal year ending September 30, 1988, $5,778,000, and for the fiscal year ending September 30, 1989, $5,788,000.

(b) GEOLOGICAL SURVEY.—There are authorized to be appropriated to the Secretary of the Interior for purposes of carrying out, through the Director of the United States Geological Survey, the responsibilities that may be assigned to the Director under this Act not to exceed $27,500,000 for the fiscal year ending September 30, 1978; not exceed $35,000,000 for the fiscal year ending September 30, 1979; not to exceed $40,000,000 for the fiscal year ending September 30, 1980; $32,484,000 for the fiscal year ending September 30, 1981; $34,425,000 for the fiscal year ending September 30, 1982; $31,843,000 for the fiscal year ending September 30, 1983; $35,524,000 for the fiscal year ending September 30, 1984; $37,300,200 for the fiscal year ending September 30, 1985; $35,578,000 for the fiscal year ending September 30, 1986; [and] $37,179,000 for the fiscal year ending September 30, 1987; *$36,540,000 for the fiscal year ending September 30, 1988; and $37,819,000 for the fiscal year ending September 30, 1989.*

(c) NATIONAL SCIENCE FOUNDATION.—To enable the Foundation to carry out responsibilities that may be assigned to it under this Act, there are authorized to be appropriated to the Foundation not to exceed $27,500,000 for the fiscal year ending September 30, 1978; not to exceed $35,000,000 for the fiscal year ending September 30, 1979; not to exceed $40,000,000 for the fiscal year ending September 30, 1980; $26,600,000 for the fiscal year ending September 30, 1981; $27,150,000 for the fiscal year ending September 30, 1982; $25,000,000 for the fiscal year ending September 30, 1983; $25,800,000 for the fiscal year ending September 30, 1984; $28,665,000 for the fiscal year ending September 30, 1985; $27,760,000 for the fiscal year ending September 30, 1986; [and] $29,009,000 for the fiscal year ending September 30, 1987; *$28,235,000 for the fiscal year ending September 30, 1988; and $31,634,000 for the fiscal year ending September 30, 1989.*

(d) NATIONAL BUREAU OF STANDARDS.—To enable the Bureau to carry out responsibilities that may be assigned to it under this Act, there are authorized to be appropriated $425,000 for the fiscal year ending September 30, 1981; $425,000 for the fiscal year ending September 30, 1982; $475,000 for the fiscal year ending September 30, 1983; $475,000 for the fiscal year ending September 30, 1984; $498,750 for the fiscal year ending September 30, 1985; $499,000 for the fiscal year ending September 30, 1986; [and] $521,000 for the fiscal year ending September 30, 1987; *$525,000 for the fiscal year*

ending September 30, 1988; and $525,000 for the fiscal year ending September 30, 1989.

* * * * * * *

VI. Oversight Activities

Pursuant to Rule XI, Clause 2(1)(3), and under the authority of Rule X, Clause 2(B)(1) and Clause 3(f), of the Rules of the House of Representatives, the following statement on oversight activities is made:

Committee oversight of the National Earthquake Hazards Reduction Program has consisted primarily of hearings; inspection of earthquake research facilities, staff attendance at FEMA, USGS, NSF and NBS meetings, and briefings and informal discussions between Committee Members, staff and federal representatives that conduct the national program.

HEARING

Testimony was given by federal representatives and state and local officials on the National Earthquake Hazards Reduction Program at authorization hearings held by the Committee on March 10, 1987.

PLANS

During the coming year the Committee plans for oversight include review of selected programs and projects within the National Earthquake Hazards Reduction Program.

VII. Oversight Findings and Recommendations by the Committee on Government Operations

No statement of findings and recommendations on oversight activity pursuant to Rule X, clause 2(b)(2), and Rule XI, clause 2(1)(3), of the Rules of the House of Representatives, have been submitted by the Committee on Government Operations for inclusion in this report.

VIII. Cost Estimate—Congressional Budget Office

1. Bill number: H.R. 1612.

2. Bill title: A bill to authorize appropriations under the Earthquake Hazards Reduction Act of 1977 for fiscal years 1988 and 1989.

3. Bill status: As amended and ordered reported by the House Committee on Science, Space, and Technology on May 13, 1987.

4. Bill purpose: This bill authorizes the appropriation of specific sums in fiscal years 1988 and 1989 for programs in four agencies: the Federal Emergency Management Agency, the U.S. Geological Survey, the National Science Foundation, and the National Bureau of Standards.

5. Estimated cost to the Federal Government:

[By fiscal year, in millions of dollars]

	1988	1989	1990	1991	1992
Authorization level	71.1	75.8			
Estimated outlays	43.8	66.7	29.2	7.2	

The costs of this bill fall within budget functions 250, 300, 370, and 450.

Basis of estimate

For the purposes of this estimate, it was assumed that the funds authorized by this bill are appropriated prior to the beginning of each fiscal year and that all funds would be obligated and disbursed at rates similar to recent experience in the relevant agencies.

6. Estimated cost to State and local governments: None.

7. Estimate comparison: None.

8. Previous CBO estimate: On April 23, 1987, CBO completed a cost estimate of H.R. 1612, as reported by the House Committee on Interior and Insular Affairs. While the estimated costs of both versions are similar for fiscal years 1988 and 1989, the earlier version authorized appropriations in fiscal years 1990 and 1991 as well.

9. Estimate prepared by: Paul M. DiNardo.

10. Estimate approved by: C.G. Nuckols for James L. Blum, Assistant Director for Budget Analysis.

IX. Budget Analysis and Projection

H.R. 1612 provides for new budget authorization rather than new budget authority and consequently the provisions of section 308(a) of the Congressional Budget Act are not applicable.

X. Effect of Legislation on Inflation

In accordance with Rule XI, clause 2(l)(4) of the Rules of the House of Representatives, the following statement is made concerning the inflationary impact of H.R. 1612.

H.R. 1612 is assessed to have no inflationary effect on prices and costs in the operation of the national economy.

XI. Committee Recommendation

A quorum being present, the bill was ordered reported on May 13, 1987, by a voice vote of the Committee.

XII. Administration Views

Federal Emergency Management Agency,
Washington, DC, March 9, 1987.

Hon. James C. Wright, Jr.,
Speaker of the House of Representatives,
Washington, DC.

Dear Mr. Speaker: Enclosed is draft legislation to authorize appropriations for the Earthquake Hazards Reduction Act of 1977 ("the Act") for fiscal years 1988 and 1989.

The bill would authorize $5,313,000 and $5,322,000 to be appropriated to the Federal Emergency Management Agency for fiscal years 1988 and 1989 respectively to carry out the authorities of section 5 and section 6 of the Act. The bill would authorize $32,540,000 and $33,679,000 to be appropriated to the United States Geological Survey to carry out its responsibilities under the Act during fiscal years 1988 and 1989, respectively. The bill would authorize $28,700,000 and $32,100,000 to the National Science Foundation to carry out its responsibilities under the Act during fiscal years 1988 and 1989, respectively. Finally, the bill would authorize $525,000 and $525,000 to the National Bureau of Standards to carry out its responsibilities under the Act during Fiscal Years 1988 and 1989, respectively.

The Office of Management and Budget advises that there is no objection to the submission of this proposal for consideration of the Congress and that its enactment would be in accordance with the President's program.

Sincerely,

SPENCE W. PERRY,
General Counsel.

Enclosure.

A BILL to authorize appropriations under the Earthquake Hazards Reduction Act of 1977 for fiscal years 1988 and 1989

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 7(a) of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7706(a)) is amended by adding at the end thereof the following:

"(7) There are authorized to be appropriated to the Director, to carry out the provisions of section 5 and 6 of this Act, for the fiscal year ending September 30, 1988, $5,313,000 and for the fiscal year ending September 30, 1989, $5,322,000.

SEC. 2. Section 7(b) of such Act (42 U.S.C. 7706(b)) is amended by striking "and" immediately after "1986;" and by adding before the period at the end thereof the following: "$32,540,000 for the fiscal year ending September 30, 1988; and $33,679,000 for the fiscal year ending September 30, 1989.

SEC. 3. Section 7(c) of such Act (42 U.S.C. 7706(c)) is amended by striking "and" immediately after "1986;" and by adding before the period at the end thereof the following: "$28,700,000 for the fiscal year ending September 30, 1988; and $32,100,000 for the fiscal year ending September 30, 1989.

SEC. 4. Section 7(d) of such Act (42 U.S.C. 7706(d)) is amended by striking "and" immediately after "1986;" and by adding before the period at the end thereof the following: "$525,000 for the fiscal year ending September 30, 1988; and $525,000 for the fiscal year ending September 30, 1989.

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